UNITED STATES PATENT AND TRADEMARK OFFICE

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TO, JENNIFER N

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 February 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-20</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-20</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-20 are pending for examination.

2.   The specification is objected to as failing to provide proper antecedent

basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP

§ 608.01(o). For example, claims 1, 8, and 15 recited "utilizing preemptive

multitasking <u>to enable each task to preempt execution of another task</u>", and

"utilizing cooperative multitasking <u>to enable each task to suspend execution itself

in a cooperative manner</u>", but the specification fails to describe and/or support

the recited limitations. According to the specification page 8, line 5 through page

10, line 15, the BIOS kernel make a preemptive/cooperative transition not the

task. Appropriate correction are required.

Claim Rejections - 35 USC § 112

3.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and
> process of making and using it, in such full, clear, concise, and exact terms as to enable any
> person skilled in the art to which it pertains, or with which it is most nearly connected, to make
> and use the same and shall set forth the best mode contemplated by the inventor of carrying
> out his invention.

4.   Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject

matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the

time the application was filed, had possession of the claimed invention.

5.   For example, claims 1, 8, and 15 recited "utilizing preemptive multitasking

to enable each task to preempt execution of another task", and "utilizing

cooperative multitasking to enable each task to suspend execution itself in a

cooperative manner", but there is no where in the specification describe and/or

support the recited limitations. According to the specification page 8, line 5

through page 10, line 15, the BIOS kernel make a preemptive/cooperative

transition not the task. Thus, claims 1, 8, and 15 contain subject matter which

was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was

filed, had possession of the claimed invention. For the purpose of examination,

examiner will interpreted the recited limitation as "utilizing preemptive

multitasking to enable the kernel to preempt execution of another task".

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

7.   Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

    a.   The claim language in the following claims is not clearly

understood:

        i.   as per claim 1, lines 10-11, it is not clearly understood what

is mean by ""enable each task to suspend itself in a cooperative

manner" (i.e. enable each task to suspend itself when the task

execution is finished regardless the interruption of another task).

    ii.   as per claims 8, and 15, they have the same deficiency as

claim 1 above. Appropriate correction is required.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9.   Claims 1-5, and 8-12 are rejected under 35 U.S.C. 102(e) as being

anticipated by Shi et al. (hereafter Shi) (U.S. Patent No. 6757897).

10.   Shi was cited in the previous office action.

11.   As per claim 1, Shi teaches the invention as claim including a method of

executing a plurality of tasks of different priority values (abstract, lines 1-5; col. 3,

lines 66-67), said method comprising:

    enabling any task irrespective of priority value to request a particular

waiting period during execution of said task, wherein said task requesting said

particular waiting period occurs irrespective of elapsed time due to execution of said task (col. 4, lines 5-9, 24-25; col. 7, lines 40-44; col. 16, line 64 through col. 17, line 5; col. 24, line 63 through col. 25, line 7);

utilizing preemptive multitasking to enable each task to preempt execution of another tasks based on said requested particular waiting period elapsing, said priority values and a plurality of statuses associated with said task (abstract; col. 11, line 65 through col. 12, line 10; col. 17, lines 1 through col. 19, line 15); and

utilizing cooperative multitasking to enable each task to suspend execution itself in a cooperative manner for duration of said requested particular waiting period (col. 14, line 34-50), where said preemptive multitasking and said cooperative multitasking increase utilization of processing power of a processor and ensure higher priority valued tasks are executed with less interruption time than lower priority valued tasks (Shi teaches utilizing preemptive multitasking and cooperative multitasking, and it is well know in the art that using preemptive and cooperative multitasking would increase utilization of processing power of a processor and ensure higher priority valued tasks are executed with less interruption time than lower priority valued tasks. Thus, Shi inherently teaches this limitation).

12.   As per claim 2, Shi further teaches:

selecting a task from said tasks based on said priority values and said plurality of statuses associated with said tasks, wherein said statuses including

executing, waiting, interrupted, completed, and unstarted (fig. 3, step 400, col. 14, lines 14-33);

starting said selected task and designating said selected task an executing task (fig. 3, step 400, col. 14, lines 14-33);

if said executing task requests a waiting period, suspending said executing task and designating said executing task a waiting task and repeating said selecting said task and said staring said selected task (fig. 3, step 401; col. 14, lines 34-53; col. 22, lines 37-62);

if said waiting period elapses for any waiting task and said executing task has a higher priority value than said waiting task, designating said waiting task an interrupted task (col. 23, lines 18-31);

if said waiting period elapses for any waiting task and said executing task does not have a higher priority value than said waiting task, suspending said executing task and designating said executing task an interrupted task and repeating said selecting task and said starting said selected task (col. 23, line 36 through col. 24, line 25); and

if said executing task completes execution, designating said executing task a completed task and repeating said selecting said task and said starting said selected task (col. 22, line 30 through col. 23, line 24).

13.   As per claim 3, Shi teaches that wherein said selecting said task includes selecting higher priority values before selecting lower priority values when possible (col. 23, line 45 through col. 24, line 23).

14.   As per claim 4, Shi teaches that wherein said selecting said task includes

if a first particular task cannot be executed until a second particular task has

completed execution, enabling selection of said first particular task after said

second particular task has completed execution (col. 23, line 45 through col. 24,

line 23).

15.   As per claim 5, Shi further teaches setting a timer based on said waiting

period (col. 14, lines 40-42, setting internal timer).

16.   As per claims 8-12, they are rejected for the same reason as claims 1-5

above.

Claim Rejections - 35 USC § 103

17.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

18.   Claims 6-7, 13-14, and 15-20 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Shi et al. (hereafter Shi) (U.S. Patent No. 6757897), as

applied in claim 1 above, and in view of Abgrall (U.S. Patent no. 6401202).

19.   As per claim 6, Shi teaches the invention substantially as claimed in claim

1 above. Shi did not specifically teach tasks are BIOS initialized tasks.

20.   However, Abgrall teaches tasks are BIOS initialized tasks (abstract; col. 1,

lines 6-7; col. 2, lines 31-32; col. 11, lines 21-25).

21.   It would have been obvious to one of an ordinary skill in the art at the time

the invention was made to have combined the teaching of Shi and Abgrall

because Shi suggested that the tasks can be any type of tasks in any type of

computing device (col. 25, lines 2-3), and Abgrall teaching of tasks are BIOS

initialized tasks would improved the integrity of Shi's system by extending the

usability of Shi's system into perform multitasking during BIOS boot-up (Abgrall,

col. 1, lines 62-63).

22.   As per claim 7, Abgrall teaches waiting period is requested from a BIOS

kernel (col. 11, lines 30-34).

23.   As per claims 13-14, they are rejected for the same reason as claims 6-7

above.

24.   As per claim 15, Shi teaches the invention substantially as claim including

a system comprising:

         a processor (fig. 1, item 101); and

the system operative to utilize preemptive multitasking and cooperative

multitasking to increase utilization of processing power of said processor and to

ensure higher priority valued tasks are executed with less interruption time than

lower priority valued tasks (Shi teaches utilizing preemptive multitasking and

cooperative multitasking, and it is well know in the art that using preemptive and

cooperative multitasking would increase utilization of processing power of a

processor and ensure higher priority valued tasks are executed with less

interruption time than lower priority valued tasks. Thus, Shi inherently teaches

this limitation) when executing a plurality of tasks of different priority values (cool.

25, lines 4-5), and wherein said system is operative to enable any task

irrespective of priority value to request a particular waiting period during

execution of said task, wherein said task requesting said particular waiting period

occurs irrespective of elapsed time due to execution of said task (col. 4, lines 5-9,

24-25; col. 7, lines 40-44; col. 16, line 64 through col. 17, line 5; col. 24, line 63

through col. 25, line 7), wherein said system uses said preemptive multitasking to

enable each task to preempt execution of another tasks based on said requested

particular waiting period elapsing, said priority values and a plurality of statuses

associated with said task (abstract; col. 11, line 65 through col. 12, line 10; col.

17, lines 1 through col. 19, line 15), and wherein said system uses said

cooperative multitasking to enable each task to suspend execution itself in a

cooperative manner for duration of said requested particular waiting period (col.

14, line 34-50).

25.   Shi did not specifically teach the system is BIOS, and tasks are BIOS

initialized tasks.

26.   However, Abgrall teaches the system is BIOS, and tasks are BIOS

initialized tasks (abstract; col. 1, lines 6-7; col. 2, lines 31-32; col. 11, lines 21-

25).

27.   It would have been obvious to one of an ordinary skill in the art at the time

the invention was made to have combined the teaching of Shi and Abgrall

because Shi suggested that the tasks can be any type of tasks in any type of

computing device (col. 25, lines 2-3), and Abgrall teaching of tasks are BIOS

initialized tasks would improved the integrity of Shi's system by extending the

usability of Shi's system into perform multitasking during BIOS boot-up (Abgrall,

col. 1, lines 62-63).

28.   As per claim 16, Shi teaches wherein said selecting said task includes

selecting higher priority values before selecting lower priority values when

possible (col. 23, line 45 through col. 24, line 23).

29.   As per claim 17, Shi teaches that wherein said selecting said task includes

if a first particular task cannot be executed until a second particular task has

completed execution, enabling selection of said first particular task after said

second particular task has completed execution (col. 23, line 45 through col. 24, line 23).

30.   As per claim 18, Shi further teaches a timer (col. 14, lines 40-42).

31.   As per claim 19, Abgrall teaches wherein said BIOS includes a BIOS kernel for receiving requests for said particular waiting period from said initialized tasks (col. 11, lines 30-34).

32.   As per claim 20, Abgrall further teaches a plurality of hardware components (fig. 2).

Response to Arguments

33.   Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

34.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure (see PTO 892 form for details).

35.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER N. TO whose telephone number is

(571)272-7212. The examiner can normally be reached on M-T 6AM- 3:30 PM,

F 6AM- 2:30 PM.

36.   If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax

phone number for the organization where this application or proceeding is

assigned is 571-273-8300.

37.   Information regarding the status of an application may be obtained from

the Patent Application Information Retrieval (PAIR) system. Status information

for published applications may be obtained from either Private PAIR or Public

PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free). If you would like assistance from a USPTO Customer Service

Representative or access to the automated information system, call 800-786-

9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/   Jennifer N. To
Supervisory Patent Examiner, Art Unit 2195